

REMARKS

The claims have been amended to clarify the patentable invention over the prior art references of record. New claims 15-18 have been added. Figures 1 and figures 2 have been amended. Figure 1 indicates it is prior art and figure 2 more correctly shows the perspective view of the inner cathode in the same fashion as the outer anode. No new matter is entered as the amendments to the claims merely clarify and further limit what was intended and shown in the drawings and specification as originally filed.

In the Office Action, claims 1-14 have been rejected as being obvious under 35 USC 103(a) over the Ribbing et al. reference in view of the Dunham et al reference. This rejection is respectfully traversed as to the claims as amended. The Ribbing reference discloses a solid wire cathode 80 which emits electrons to a glass with an anode material for transmission of x-rays outwardly therefrom. The cathode being a wire is not in its entirety transparent to x-rays and also has no reasons for being transparent to x-rays since the x-rays being used are directed outwardly and not back to the cathode.

The Dunham reference discloses a standard set up where the electrons are directed to an anode 94 and the anode 94 emits X-rays at an angle through a window 110. It states that the cathode may have a hollow cylindrical shape. However, there is no reason apart from looking applicant's invention to apply the Dunham hollow cylinder to the Ribbing reference. Secondly,

nowhere does it state the cathode is transparent to the X-rays.

It is believed that the examiner has not provided sufficient reasons for the combination of the two references apart from using hindsight to render applicant invention obvious. As stated in the recent Supreme Court decision of KSR International Co. v. Teleflex, Inc. 127 S. Ct. 1727, 1741; 82 USPQ 2nd, 1385, 1396 (2007),

...it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.

No such reason is given in the rejection. Furthermore, no support is given or a hint or suggestion to further modify the Ribbing reference to contain a hollow cathode as set forth in the amended claim 1.

Even assuming if the combination is made, there is no disclosure that the entire cathode is transparent to x-rays by the combination of references. The citation to Ribbings col. 7:66-8:6 contains no mention that the cathode as an entity is transparent to x-rays. It contains no reference to transparency of the cathode. Such a limitation is now contained in all the claims as amended.

Furthermore, none of the cited references disclose the x-rays being directed back to and through the cathode to a

target area within the hollow cylinder cathode. As such, claims 1, 7 and 13 as amended is believed to be allowable over the prior art references.

Claims 2-6 being dependent on claims 1 are believed to be allowable for the same reasons set forth above.

Claim 7 and 13 has been amended in a similar fashion to claim 1 and is thus believed allowable for the same reasons set forth above for claim 1. Claims 8-12 being dependent on claim 7 are believed to be allowable for the same reasons set forth for claim 7. Claim 14 being dependent on claim 13 is believed allowable for the same reason set forth above.

New claims 15-17 being dependent on claim 1 are added to set forth further limitations not found in the prior art references and are thus believed to patentably distinct from the prior art.

New independent claim 18 has also been added which sets forth the patentably distinct limitation that the transparent cathode is shaped to produce a wide angle of electron emissions and the anode is shaped to produce a wide angle of x-rays that are directed back to the and through the cathode to a target area about a wide angle. None of the prior art references disclose this kind of structure and ability to produce x-rays at a large angle at a target area. As such new claim 18 is believed to be allowable.

As such, it is now believed that the case is in condition for allowance and early notification of such allowance

is earnestly solicited.

Enclosed please find a Credit Card Payment Form for the amount of \$210.00 for the one (1) additional independent claim. If it is determined that any additional fees are due with this submission, the Commissioner is hereby authorized and respectfully requested to charge such fee to our deposit account No. 50-0852.

Respectfully submitted,

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Date: July 11, 2008